NOTICE

Health, Safety & Radiation
Protection Division

November 3, 2003

Notice 0131

Integrated Work Management – Interim Process

INTRODUCTION

To enhance the Laboratory's work management processes for safely conducting work, an Integrated Work Management Committee (IWMC) has been appointed by the Director to develop improvements in Safe Work Practices (SWP), Hazard Analysis and Control for Facility Work, and other requirements that support them. The IWMC has begun a 6-8 month initiative for developing, piloting, and implementing a comprehensive set of work control improvements.

However, recent significant accidents and a number of assessments have indicated that immediate, interim actions are necessary. This Notice is being issued with the process improvement requirements that are to be implemented until they are incorporated into revisions to the Laboratory's work control/management LIRs. Specifically, the requirements in this Notice emphasize the implementation of the existing work control processes. Thus, changes to existing work processes are not being made at this time. Instead, the requirements contained in this Notice refine implementation expectations, clarify roles and responsibilities, and provide a tool to drive these improvements. In short, this is an overlay of the existing work control processes.

Note: The Integrated Work Document (IWD) supercede the following specific requirements, provided the original intent of the requirements are met:

- 1. AHAs for new Facility Work
- 2. Identification of Activities, Hazard Analysis, and Controls for Safe Work Practices
- **3.** Pre-job Briefs in Facility Work Control
- 4. Pre-job Briefs in Radiation Work Permits

The requirements contained in this Notice shall apply to all work requiring Hazard Control Plans (HCPs), Facility Work Packages and Activity Hazards Analyses (AHA), and other activity hazard identification/control documents.

Section	Description
1.0	Definitions
2.0	Requirements for Implementation
3.0	Interim Process
4.0	Identifying Work Activities
5.0	Requirements for Breaking Down Activities into Sequential Tasks/Steps
6.0	Requirements for Identifying Hazards, Concerns & Potential Consequences
7.0	Requirements for Determining Controls, Preventive Measures & Boundaries
8.0	Requirements for Validating the Tasks/Steps, Hazards and Controls
9.0	Requirements for Approving Activity
10.0	Requirements for Conducting a Pre-Job Briefing
11.0	Requirements for Releasing the Work
12.0	Requirements for Periodically Confirming Readiness
13.0	Roles & Responsibilities
14.0	Implementation Schedule
	Integrated Work Document (Form 2067)

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1.0 **DEFINITIONS**

Activity: A set of tasks required to meet project deliverables.

Task: A subset of an Activity comprised of procedural steps.

Step: A segment of a task, typically sequenced into a procedure or work instruction, necessary to advance the work.

2.0 REQUIREMENTS FOR IMPLEMENTATION

The following requirements must be implemented for all work management processes:

- Development of a consolidated set of clearly defined work tasks/steps linked to hazards and controls. Tasks/steps shall be identified in sufficient detail to ensure that the work can be accomplished with all hazards and controls identified.
- Consolidation of a set of clearly defined work tasks/steps linked to the hazards and controls that provide a single Integrated Work Document (IWD) that:
 - Are directed at the worker.
 - Identify work tasks/steps sequentially,
 - Is extracted from other documents and/or developed into an integrated set of tasks/steps, hazards and controls.
- 3. Identification of a **single** Person-In-Charge (PIC) with the responsibility, accountability, and authority to determine the quality of the completed IWD and manage and coordinate the work to the IWD.
- 4. Involvement of the Responsible Division Leader (RDL) or his/her representative who must approve and authorize all work within the RDL's facility.
- 5. Direct involvement, as necessary, of workers, supervisors, subject matter experts (SMEs), the PIC, and the facility management point of contact (FM POC) in identifying tasks/steps and associated hazards and controls.
- 6. A field walk-down of the work activity to validate the tasks/steps, hazards, and controls that have been identified for implementation.
- 7. Clearly identified roles and responsibilities, accountabilities and authorities required for work management review and approval.

Los Alamos National Laboratory Effective Date: November 3, 2003

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8. Explicit release of the work prior to startup, and continued confirmation of readiness periodically performed for conducting the work.

3.0 INTERIM PROCESS

The Integrated Work Management Interim Process comprises 6 critical steps. The Integrated Work Document (IWD) Form 2067 shall be used to implement and document this process which includes:

- 1. Preparation of the IWD by identifying work activities, sequential tasks/steps, and corresponding hazards and controls.
- 2. Validation of the IWD tasks/steps, hazards, and controls through a field walk-down.
- 3. Approval of the work activity.
- 4. Pre-job briefing based on the IWD tasks/steps, hazards, and controls.
- 5. Release of the work.
- 6. Periodic confirmation of readiness.

4.0 IDENTIFYING WORK ACTIVITIES

The interim process applies to all current and future work activities requiring HCPs, Facility Work Packages, AHAs, and other activity hazard identification/control documents. IWD(s) shall be produced for these activities.

Laboratory organizations must identify existing work management documents, evaluate how well they currently meet the expectations contained in this Notice, and resolve identified deficiencies while developing the IWDs.

For new work, existing work control processes must be applied per existing requirements including SWP and Hazard Analysis for Facility Management Work Control, and respective work control documents must be produced. The IWD can serve as the requisite task/step, hazard, and control descriptions for these documents (e.g. the IWD can serve as the AHA for facility management work control or the hazards analysis and control section for the HCP).

Emergency work covered in the Facility Management Work Control LIR 230-03-01.5 shall be outside the scope of this Notice as is emergency response and other Emergency Management & Response (EM&R) support. Operations organizations and facilities must continue to implement existing processes and requirements for these work activities.

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5.0 REQUIREMENTS FOR BREAKING DOWN ACTIVITIES INTO SEQUENTIAL TASKS/STEPS

After identifying the work activity, the first step in completing the IWD shall be the breaking down of the activity into its component task/steps and entering these in the IWD Part B. The Preparer shall perform this, with input as necessary, from representative workers, subject-matter-experts, and the FM POC. It is strongly advised that workers be involved in preparing the IWD to ensure details are correctly identified.

<u>Guidance Note:</u> In many cases, a scoping walk-down of the activity work site may be warranted.

Activities must be broken down into a detailed level that ensures identification of unique hazards, concerns, and potential accidents and must establish effective controls, preventive measures, and boundary conditions as they relate to specific tasks/steps.

For the purpose of this Notice, activities are made up of tasks, and tasks are made up of steps. Ordinarily, work should be broken down into individual steps. Care must be taken not to make the steps too general, thereby missing specific steps and their associated hazards.

<u>Guidance Note:</u> When additional detail is required on how the work is to be performed, detailed work instructions may be referenced on the IWD Part B. The referenced material must include the detailed step requirements, the hazards and controls are broken out at the task/step level, and the referenced material is included with the work package. Each step should begin with action words like "remove", "carry", or "open", and describe what the action applies to.

For some work activities, the hazards and controls can be adequately identified and managed at the task level without requiring detailed steps. In this case, the line manager must designate in writing that the task can be performed safely by a worker, based upon the worker's expertise and qualifications. For craft workers, journeyman trade status must be utilized to demonstrate expertise and qualification for defined skill of craft tasks. For technical personnel, individual qualifications must be evaluated, documented, and approved by the line manager.

<u>Guidance Note:</u> An example form of how this documentation can be completed is available at http://int.lanl.gov/safety/iwmc/.

For work activities where current management documents do not contain the required detail, additional required detail must be added to the IWD. More than one IWD may be required for an activity or several activities that are currently covered by a single work control document. For work activities where

Los Alamos National Laboratory Effective Date: November 3, 2003

Mandatory Document

tasks/steps for a single activity currently exist in multiple hazard identification documents (e.g., work permits, HCPs, work packages, etc.), they shall be consolidated into a single IWD.

6.0 REQUIREMENTS FOR IDENTIFYING HAZARDS, CONCERNS, AND POTENTIAL ACCIDENTS

After recording the basic tasks/steps, all activity and site hazards, concerns, and potential accidents associated with relevant tasks/steps must be identified. In cases where hazards for a single activity currently exist in multiple hazard identification documents (e.g., work permits, RWPs, HCPs, etc.), they shall be consolidated into a single IWD and documented in Part B of Form 2067.

<u>Guidance Note:</u> To assist in identifying potential hazards, a hazard checklist or other tool should be used. An example of a hazard and control identification tools is included at http://int.lanl.gov/safety/iwmc/.

As necessary, SMEs shall be utilized to assist in identifying hazards, concerns, and potential accidents.

7.0 REQUIREMENTS FOR DETERMINING CONTROLS, PREVENTIVE MEASURES AND BOUNDARIES

Controls, preventive measures, boundary conditions, supplemental documents, and training requirements shall be developed or identified for each hazard, concern, and potential accident then documented in Part B of the IWD. In cases where other permits or work documents identify controls, those controls shall be included in the IWD Part B. The order of preference for the type of control implemented shall be:

- Elimination of the hazard by choosing or modifying the process or substituting a less hazardous substance, or modifying the equipment or tools
- Application of engineering controls such as enclosures, machine guards, interlocks, worker booths or similar devices
- Application of administrative controls, such as training, lockout/tagout, and procedure development or modification
- Use of personal protective equipment (PPE)

As necessary, SMEs shall be utilized to assist in identifying hazards, controls, preventive measures, and boundaries. Controls shall be specific in nature (e.g. "goggles and face shield" rather than "eye protection"). A final check must be completed to ensure that the controls in aggregate are correct and implementable, but do not introduce an additional unevaluated hazard.

Los Alamos National Laboratory Effective Date: November 3, 2003

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8.0 REQUIREMENTS FOR VALIDATING THE TASKS/STEPS, HAZARDS AND CONTROLS

After the tasks/steps, hazards, and controls for an activity have been identified, representative workers and the PIC shall validate them through a field walkdown. As necessary, this validation walk-down shall also involve direct supervisors, subject matter experts, the FM point-of-contact, and others. During the walk-down using the IWD, the tasks/steps shall be reviewed for "workability", and the hazards and controls reviewed for completeness and adequacy. The walk-down shall be done as close in time to the actual start of the work as feasible.

Following validation of the IWD, any issues identified shall be resolved before the work is released.

9.0 REQUIREMENTS FOR APPROVING ACTIVITY

The RDL or representative shall approve the work based upon confidence that this work management process has been effectively implemented and that the work will proceed safely within the facility following completion of the pre-job briefing and work release.

10.0 REQUIREMENTS FOR CONDUCTING A PRE-JOB BRIEFING

Immediately prior to starting the work activity, a pre-job briefing shall be performed. This briefing shall involve the PIC and the actual workers performing the task/steps covered by the IWD, and, as necessary, direct supervisors, subject matter experts and the FM POC. The pre-job briefing should be completed at the worksite where practical and shall include a job site walk-down, except in cases where the pre-job walk-down will introduce unreasonable risk. The IWD shall be discussed to ensure that everyone involved understands and agrees with the task/steps, hazards, and controls. The briefing shall include a discussion of stop work responsibilities and safe shutdown measures. Workers must confirm that they are qualified and fit to perform the work and that work is ready to start.

11.0 REQUIREMENTS FOR RELEASING THE WORK

In those cases where the activity may have an impact on the facility or may interface with facility systems, structures, or components, the FM POC shall concur with the release of the work. The PIC shall confirm that the work and workers are authorized, that required initial conditions and other prerequisites are in-place, and that he/she has conducted the pre-job briefing with all workers. The PIC shall release the work for start-up after being satisfied that all of the work planning and preparation requirements have been implemented.

Los Alamos National Laboratory Effective Date: November 3, 2003

Mandatory Document

12.0 REQUIREMENTS FOR PERIODICALLY CONFIRMING READINESS

After the initial start-up of a work activity, periodic post-start readiness checks shall be performed to confirm that working conditions remain within planned parameters. At the start of the work day, the beginning of a new shift, or other identified time, the workers and PIC shall determine if any significant changes in the work or workers have occurred that would trigger the need for reevaluation of the work, hazard, or controls. This review shall serve as the daily worker "self-readiness check" required by Safe Work Practices. Changes which must be considered include:

- new workers
- change in the scope of work
- identification of a new hazard
- changes in status of controls
- changes in facility, equipment, or work conditions
- additional concerns by workers or others

The PIC shall evaluate the significance of the change and determine the appropriate response, which could include re-working the IWD, conducting another pre-job briefing and work release, or simply making editorial field changes to the documentation. Field changes cannot result in increases of scope beyond that which was originally approved in the source work control document. In cases where change is indicated, the PIC shall notify all affected workers, the RDL as appropriate, and determine the need for formal change or field change to the IWD.

13.0 ROLES AND RESPONSIBILITIES

Roles, responsibilities, and authorities for the integrated work management - interim process are shown in the table below. In some cases, a single individual may fulfill multiple roles, but a minimum of two people are always required to complete the process.

WHO	MUST
Preparer: The individual designated by their respective line management who prepares Part B of the IWD Form 2067. This person shall have the knowledge of the work activity that is required for defining the tasks/steps, hazards, and controls, and involve other personnel, as necessary.	 As necessary, engage actual or representative workers, SME(s), facility personnel, and others when defining tasks/steps in the detail required to ensure complete identification of the associated hazards, determination of the required controls, and the effective completion of the work activity. When existing work control work documents are referenced, ensure new task/steps, hazards, and controls identified during preparation and validation of this process are incorporated back into the source documents.

WHO	MUST
Workers: Individuals who will be directly involved in the actual performance of the work activity.	 Provide input regarding their direct knowledge of work steps, identification of hazards, potential accident scenarios, and effectiveness of controls in the IWD preparation. Participate in the IWD validation, prejob briefings, and on-going readiness checks to confirm that: Tasks/steps have been identified in the detail required to ensure all hazards and concerns are identified, The work activity can be performed as written, They are confident that the hazards have been identified, They are comfortable that the controls will prevent accidents, The validation walk-down and pre-job briefings are effective, and They are qualified and fit to perform the work safely. Perform work and apply controls in accordance with the IWD. Stop work when conditions or hazards change or when encountering unexpected conditions during the execution of the work. Guidance Note: A representative worker may participate in the preparation and validation steps when the actual workers have not been identified.

WHO	MUST
Subject Matter Expert (SME): An individual with recognized academic credentials, work experience, or knowledge of an ES&H field or other functional area associated with the defined work.	 Provide specific technical expertise for identification of tasks/steps, hazards, and/or controls during the development of the IWD. Participate in the IWD validation walk-down, and pre-job briefing as necessary.
Facility Manager Point of Contact (FM POC): a facility subject matter expert.	 Provide specific facility-related information regarding facility systems, structures, and components and facility-related processes during development of the IWD. Participate in the IWD validation walkdown and work release as necessary.
Responsible Division Leader (RDL): the division leader having ultimate responsibility, authority, and accountability for the safety of all work activities within his/her facility.	 Approve all work in the facility prior to startup based upon confidence that the work will be done safely. Consider all of the facility requirements and conditions, work processes, aggregate hazards, authorization basis, and the interrelationship between proposed work and other ongoing work activities and site hazards.
	Guidance Note: The RDL may delegate his/her authority for work approval of defined operations, in writing, preferably to representatives within his/her line organization.
	When such authorities are delegated, it shall include formal agreement between the RDL, the representative, and the division leader responsible for that representative. This delegation shall also specify limits or boundaries within which the delegation is valid.

WHO	MUST
<u>Direct Supervisor</u> : The first level above the worker(s) in the safety responsible line management chain.	 As necessary, participate in the IWD development, validation walk-down, and pre-job briefing to assist in confirming that tasks/steps, hazards, and controls are correctly identified. Confirm that workers assigned to the work activity are qualified and authorized to perform that activity.
	Guidance Note: In accordance with ISM, this position can be formally transferred, in writing, from one organization to another.

<u>WHO</u>			MUST	
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Person-In-Charge (PIC): the individual with responsibility, authority, and accountability for coordinating and executing the work activity in accordance with the IWD. The PIC must be a LANL UC or prime subcontractor employee. He/she must be assigned by the line manager responsible for the work and approved in writing by the RDL (indicated by RDL's signature on the IWD).

 Conduct the validation walk-down, and confirm that:

- necessary Subject Matter Experts (SMEs) were involved in this process,
- tasks/steps have been identified in the detail required to ensure all hazards and concerns are identified.
- the work activity can be performed as written,
- workers are confident that the hazards have been identified.
- workers are comfortable that the controls will prevent accidents,
- Release and re-release work and confirm that:
 - workers are authorized to perform the work
 - the validation walk-down and pre-job briefings are effective, and
 - the IWD is complete and the work meets all conditions for start-up and release.
- Stop work when conditions or hazards change or when unexpected conditions are encountered during the execution of the work.
- Resolve conflicts in tasks/steps, hazards and controls.
- Resolve on-the-floor issues as they arise utilizing a graded approach consistent with the requirements in this Notice.

Los Alamos National Laboratory Effective Date: November 3, 2003

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14.0 IMPLEMENTATION SCHEDULE

The requirements contained in this Notice shall be effective November 3, 2003 for all new work (any work for which execution has not yet started) and for existing work that entails the following:

- Dismantling systems, components, equipment, or structures;
- Penetrations;
- Excavations; and
- Hoisting, rigging, and lifting.

For all remaining work including facility routine maintenance (to be defined by November 3) and "Fix-it Now", the requirements of this Notice must be fully implemented by January 1, 2004 for that work to continue.

By November 14, 2003, all divisions shall submit an implementation plan to the Director's Office c/o <u>lindasalazar@lanl.gov</u> that:

- Prioritizes all remaining work in their line organization based upon risk,
- Establishes implementation milestones, and
- Documents the impact of work that will be delayed.

By November 14, 2003, all RDLs and their respective tenant organizations must submit documentation of clear understanding of roles, responsibilities, and authorities to lindasalazar@lanl.gov.

<u>Guidance Note:</u> An example form of how this documentation can be completed is at http://int.lanl.gov/safety/iwmc/.

Until November 14, 2003 the division leader responsible for the work may designate in writing, individuals that are authorized to sign the RDL approval.

Contract changes to require the Integrated Work Management Interim Process for affected subcontractors will be completed by November 30, 2003. Individual projects will be evaluated based on risk for specific timing on contractual changes. Contact your SUP Contract Administrator for further information.

The requirements contained in this Notice shall remain in effect until incorporated into the work control LIRs. The OIC for this Notice is HSR Division.

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INTEGRATED WORK DOCUMENT (IWD)

PART A

Work Document #: (HC	CP, WO, etc.)	Activity/Task Title:			
FMU: TA: B		Building:	Room:	Expiration Date:	
Activity/Task Description	I on:	l	I		
		PREPAI	RATION		
The signature(s) be detail to safely per			ps/tasks, hazards a	and controls are of sufficient	
Preparer (Signature / Z # / Date) Required			SME (Signature / Z # / Date / Area of Expertise)		
SME (Signature / Z # / Date / Area of Expertise)			SME (Signature / Z # / Date / Area of Expertise)		
SME (Signature / Z # /	SME (Signature / Z # / Date / Area of Expertise) FM POC (Signature / Z # / Date)				
		VALID	ATION		
activity walk-down 1. The necession 2. Steps/tasks 3. The work candidate.	, and confirms ary Subject Ma have been ide an be performe ent that the ha	s the following: atters Expert(s) (SMI entified in sufficient d	E) were <i>involved</i> in etail. entified.		
Worker (Signature / Za	# / Date / Area of	Expertise) Required	Worker (Signature / Z	# / Date / Area of Expertise)	
Worker (Signature / Z # / Date / Area of Expertise) Worker (Signature				# / Date / Area of Expertise)	
FM POC (Signature / Z # / Date)			PIC (Signature / Z#/	Date) Required	

Page 1 Form No 2067.

Los Alamos National Laboratory Effective Date: November 3, 2003

Mandatory Document

INTEGRATED WORK DOCUMENT (IWD)

APPROVAL				
The RDL approves the work in his/her facility prior to startup based on confidence that the work will be completed safely, following completion of pre-job briefing and work release.	RDL or Representative (Signature / Z # / Date) Required			
Condition or date when RDL re-approval is required.				

PRE-JOB BRIEFING

By signing below, I agree to the following:

- I agree to follow the work steps and implement the controls as written.
- I agree to stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I am qualified and fit to perform the work.

Note: Supplemental signature sheets may be added as necessary.

Worker (Signature / Z # / Date) Required	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	

WORK RELEASE

By signing below, I have verified that the facility conditions are compatible with the work activity.

FM POC (Signature / Z # / Date)

By signing below, I have verified the following:

- The assigned workers have the authorization and training to perform the work safely.
- The IWD is adequate, and the worksite meets all conditions for startup and release.
- I have conducted the pre-job briefing, all workers have been briefed and, as necessary a pre-job walk-down has been completed.

PIC (Signature / Z # / Date) Required

Form No 2067. Page 2

Los Alamos National Laboratory Effective Date: November 3, 2003

Mandatory Document

INTEGRATED WORK DOCUMENT (IWD)

PRE-JOB BRIEFING, CONTINUATION SHEET

By signing below, I agree to the following:

- I agree to follow the work steps and implement the controls as written.
- I agree to stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I am qualified and fit to perform the work.

Worker (Signature / Z # / Date) Required	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	
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Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	
Worker (Signature / Z # / Date)	Worker (Signature / Z # / Date)	

WORK RE-RELEASE

By signing below, I have verified that the facility conditions are compatible with the work activity.

FM POC (Signature / Z # / Date)

By signing below, I have verified the following:

- The assigned workers have the authorization and training to perform the work safely.
- The IWD is adequate, and the worksite meets all conditions for startup and release.
- I have conducted the pre-job briefing, all workers have been briefed and, as necessary, a pre-job walk-down has been completed.

PIC (Signature / Z # / Date) Required

Page 3 Form No 2067.

Mandatory Document

INTEGRATED WORK DOCUMENT (IWD)

PART B

Work Tasks/Steps Identify sequence of work steps/tasks.	Hazards, Concerns, and Potential Accidents Identify hazards for each task/step. Identify site hazards that could affect workers.	Controls, Preventive Measures, and Boundaries Specify controls for each hazard (e.g., lockout/tagout points, specific PPE, etc.).	Supplemental Documents List permits, operating manuals, and other reference procedures.	Training List training requirements.

Page 4 Form No. 2067